



BTECH DEGREE – CODE #2085

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The Bachelor of Technology degree in cyber security at Alfred State is designed to prepare you to enter the workforce as an information security professional—one of the fastest-growing computer and information technology career paths—with a special emphasis in network and host security, secure programming, secure database applications, mobile device security, and cloud security. From courses in security, to programming language sequences such as .NET, Java, and C++, this program will help you meet the needs of today's and tomorrow's information security industry. You will also receive a sound foundation in web development, networking, and microcomputer systems. And in order to give you the hands-on experience employers are looking for, a full-semester internship is included.

ADVANTAGES

- Organizations of all types and sizes need information technology professionals, and emphasis on security has never been higher.
- Due to the solid foundation in all the major fields of information technology, the job opportunities for graduates are wide and numerous.

CONTINUING EDUCATION OPPORTUNITIES

Articulation agreements have been established with many community colleges and additional agreements are in development. It is possible, with careful selection of courses, to transfer from a variety of associate degrees, including computer information systems, information technology, computer science, and others. Upon completion of the bachelor's degree, students will be prepared to pursue a graduate degree in information technology. The computer information systems degree (AAS) at Alfred State is especially well suited for transfer into the bachelor's degree at the junior level.

OCCUPATIONAL OPPORTUNITIES

Organizations of all types and sizes need information technology professionals and emphasis on security has never been higher. The primary employment field includes security IT specialists, Virtual Private Network administrators, authentication specialists, database administrators, programmers, and system analysts. Due to the solid foundation in other areas, graduates will not be limited to these areas; thus, the job opportunities are wide and numerous.

EMPLOYMENT STATISTICS

Employment and continuing education rate of 100 percent – 100 percent are employed.

RELATED PROGRAMS

- [Computer Engineering Technology](#)
- [Computer Information Systems](#)
- [Computer Science](#)
- [Digital Media and Animation](#)
- [Information Technology: Applications Software Development](#)
- [Information Technology: Network Administration](#)
- [Information Technology: Web Development](#)

ENTRANCE REQUIREMENTS/RECOMMENDATIONS

Required: Algebra, Geometry, Algebra 2

REQUIRED COURSE PREREQUISITES

If students do not place into MATH 1033 College Algebra, MATH 1084 Calculus I, MATH 1323 Quantitative Reasoning, 1034 College Algebra of Functions, 1054 Precalculus, or 2124 Statistical Methods & Analysis, then MATH 1014 Algebra Concepts is a required prerequisite for completion of the major.

OFFICE OF ACCESSIBILITY SERVICES

Students who believe they need a reasonable accommodation to properly participate in this program may contact Melanie Ryan in the Office of Accessibility Services. This office may be contacted by email at oas@alfredstate.edu or by phone at 607-587-4506. Please keep in mind that some accommodations may take time to implement, so students seeking accommodations are encouraged to contact OAS as early as possible.

REQUIRED EQUIPMENT

A tier 2 laptop computer is required for students entering the cyber security program. Laptop specifications are available at www.alfredstate.edu/required-laptops.

CYBER SECURITY - BTECH DEGREE

TYPICAL EIGHT-SEMESTER PROGRAM

First			
CISY	1023	Intro to Information Tech	3
CISY	1113	Computer Programming I	3
COMP	1503	Writing Studies	3
GLST	2113	Global & Diverse Perspectives	3
XXXX	xxx3	Gen. Ed. Elective	3
			15
Second			
CISY	2133	Computer Programming II	3
CISY	2143	Microcomputer Systems I	3
LITR	xxx3	Literature Elective	3
MATH	xxx3	College Algebra or Higher*	3
CISY	2153	Database Appl and Programng I	3
			15
Third			
CISY	4033	Networking I	3
CISY	3223	Intro to Web Page Development	3
MATH	2124	Statistical Methods & Analysis OR	4
MATH	1123	Statistics I	3
XXXX	xxx3	Gen. Ed. Nat Science	3
ACCT	1124	Financial Accounting	4
			16-17
Fourth			
CISY	4053	Linux/Unix Admin and Scripting	3
BUAD	3153	Fundamentals of Management	3
CISY	5203	Network Administration	3
CISY	4723	Essentials of Info Security	3
SPCH	1083	Public Speaking OR	3
SPCH	xxx3	Effective Speaking Equivalent	3
XXXX	xxx3	Gen. Ed. Elective	3
			18

Fifth			
COMP	5703	Technical Writing II	3
XXXX	xxx3	Open Elective -Upper **	3
CISY	7033	Security Tools	3
CISY	7023	Compu Forensics & Legal Issues	3
XXXX	xxx3	Gen. Ed. Elective	3
XXXX	xxx3	Professional Elective	3
			18

Sixth			
CISY	7003	Project Management	3
CISY	7013	Network & Host Security	3
CISY	5133	Sec Policies, Recov & Risk Man	3
XXXX	xxx3	Open Elective	3
XXXX	xxx3	Professional Elective - Upper	3
			15

Seventh			
CISY	8703	Information Security Capstone	3
OR			
CISY	8303	Sftw Intgtn & Interoperability	3
CISY	8603	Seminar Critical Issues in IT	3
XXXX	xxx3	Open Elective	3
XXXX	xxx3	Professional Elective	3
XXXX	xxx3	Open Elective - Upper*	3
			15

Eighth			
CISY	8712	Info Technology Internship	12
			12

* If not required, take LAS elective to complete degree requirements of three credits; otherwise take free elective.

** BUAD 4003 or BUAD 6113 recommended.

GPA of 2.5 or higher is required in major courses; GPA of 2.0 minimum overall is required.

Internship is student-initiated.

Be advised that a prior felony conviction may impede a student's ability to participate in an internship and complete the program.

GRADUATION REQUIREMENTS

- 124 credit hours
- 39 credit hours in major field required courses
- 24 credit hours in professional courses
- 18 credit hours in core concentration
- 30 credit hours in liberal arts/general education courses
- A 2.5 grade point average in the major is needed for the required internship
- Other requirements as stated in college academic regulations
- Seven general education areas are required, including three of the following five: art, language, other world civilizations, American history, or western civilization